



October 3, 2000

**ABSOLUTE MAXIMUM RATINGS**

Parameter	Symbol	Maximum	Units
Input Supply Voltage	$V_{IN}$	7	V
Power Dissipation	$P_D$	Internally Limited	W
Thermal Resistance Junction to Case TO-220 TO-263	$\theta_{JC}$	3 3	°C/W
Thermal Resistance Junction to Ambient TO-220 TO-263	$\theta_{JA}$	50 60	°C/W
Operating Ambient Temperature Range EZ1086BC, EZ1086C EZ1086I	$T_A$	0 to 70 -40 to 85	°C
Operating Junction Temperature Range EZ1086BC, EZ1086C EZ1086I	$T_J$	0 to 125 -40 to 125	°C
Storage Temperature Range	$T_{STG}$	-65 to 150	°C
Lead Temperature (Soldering) 10 Sec	$T_{LEAD}$	300	°C
ESD Rating (Human body model)	ESD	2	kV

**ELECTRICAL CHARACTERISTICS**

Unless otherwise specified: Adj  $V_{IN}$  = 2.75V to 7.0V and Adj  $I_O$  = 10mA to 1.5A; Fixed  $V_{IN}$  = 4.75 to 7.0V and Fixed  $I_O$  = 0 mA to 1.5A. Values in **bold** apply over full operating ambient temperature range.

Parameter	Symbol	$V_{IN}$	$I_O$	Min	Typ	Max	Units
Output Voltage <sup>(1)</sup> EZ1086C-X.X	$V_O$	5V	0mA	0.99 $V_O$ <b>0.98<math>V_O</math></b>	$V_O$	1.01 $V_O$ <b>1.02<math>V_O</math></b>	V
Reference Voltage <sup>(1)</sup> EZ1086C, EZ1086I	$V_{REF}$	5V	10mA	1.238 <b>1.225</b>	1.250	1.262 <b>1.275</b>	V
Reference Voltage <sup>(1)</sup> EZ1086BC	$V_{REF}$	5V	10mA	1.233 <b>1.220</b>	1.250	1.267 <b>1.280</b>	V
Line Regulation <sup>(1)</sup>	$REG_{(LINE)}$		10mA		0.045	<b>0.2</b>	%
Load Regulation <sup>(1)</sup>	$REG_{(LOAD)}$	5V			0.15	<b>0.4</b>	%
Dropout Voltage EZ1086C, EZ1086C-X.X <sup>(2)</sup> EZ1086BC <sup>(2)</sup> EZ1086I <sup>(2)</sup>	$V_D$		1.5A		1.20 1.20 1.20	<b>1.30</b> <b>1.45</b> <b>1.40</b>	V
Current Limit	$I_{CL}$			<b>1.5</b>	2.0		A
Quiescent Current Fixed Voltage Version	$I_Q$	5V			10	<b>14</b>	mA
Temperature Coefficient	$T_C$				<b>0.005</b>		%/°C

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### ELECTRICAL CHARACTERISTICS (Cont.)

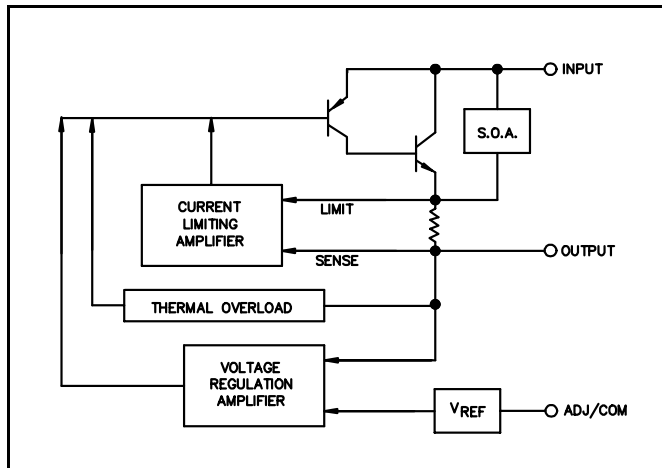
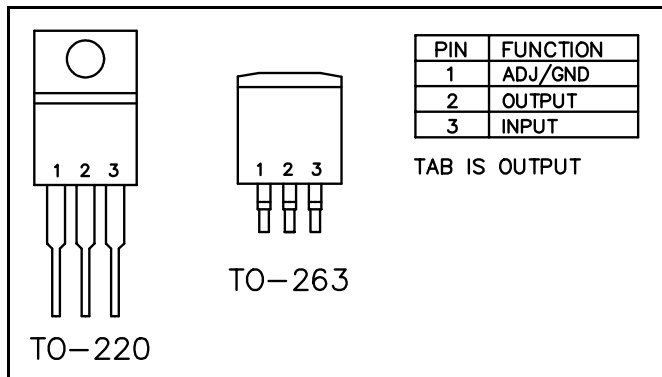
Unless otherwise specified: Adj  $V_{IN} = 2.75V$  to  $7.0V$  and Adj  $I_O = 10mA$  to  $1.5A$ ; Fixed  $V_{IN} = 4.75$  to  $7.0V$  and Fixed  $I_O = 0$  mA to  $1.5A$ .  
 Values in **bold** apply over full operating ambient temperature range.

Parameter	Symbol	$V_{IN}$	$I_O$	Min	Typ	Max	Units
Adjust Pin Current	$I_{ADJ}$				55	<b>90</b>	$\mu A$
Adjust Pin Current Change	$\Delta I_{ADJ}$				0.2	<b>5</b>	$\mu A$
Temperature Stability	$T_S$	5V	0.5A		<b>0.5</b>		%
Minimum Load Current Adj. Voltage Versions	$I_O$	5V			5	<b>10</b>	mA
RMS Output Noise <sup>(3)</sup>	$V_N$				0.003		$\%V_O$
Ripple Rejection Ratio <sup>(4)</sup>	$R_A$	5V	1.5A	<b>60</b>	72		dB

#### NOTES:

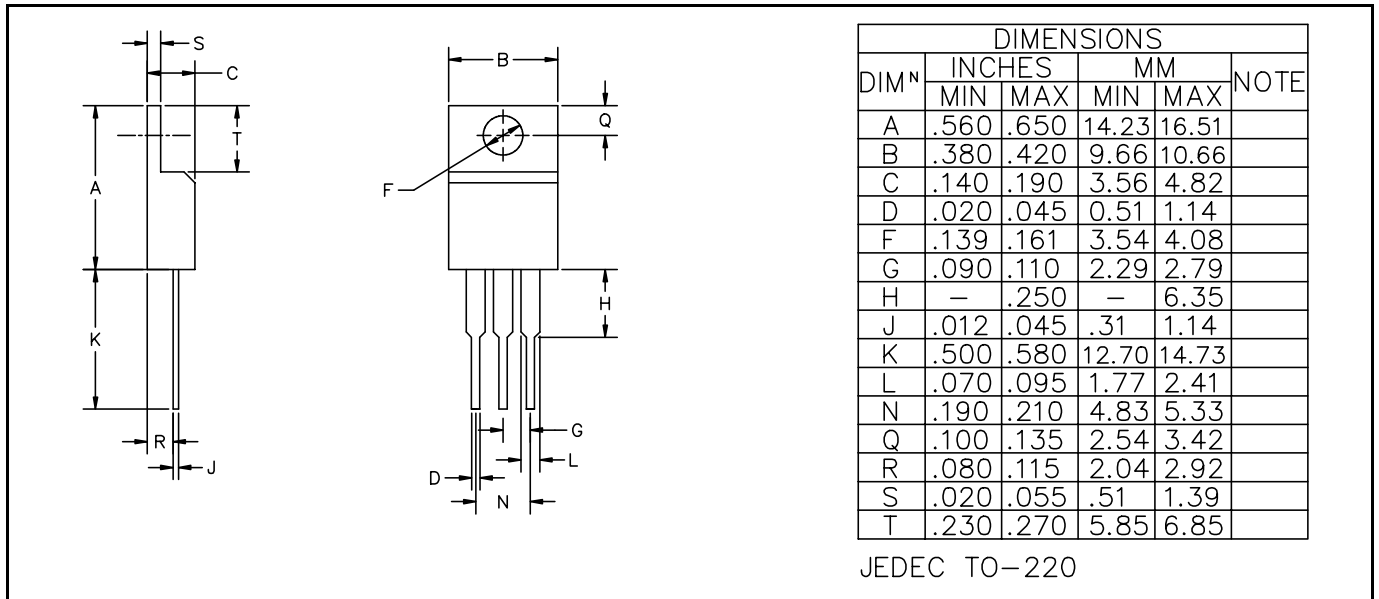
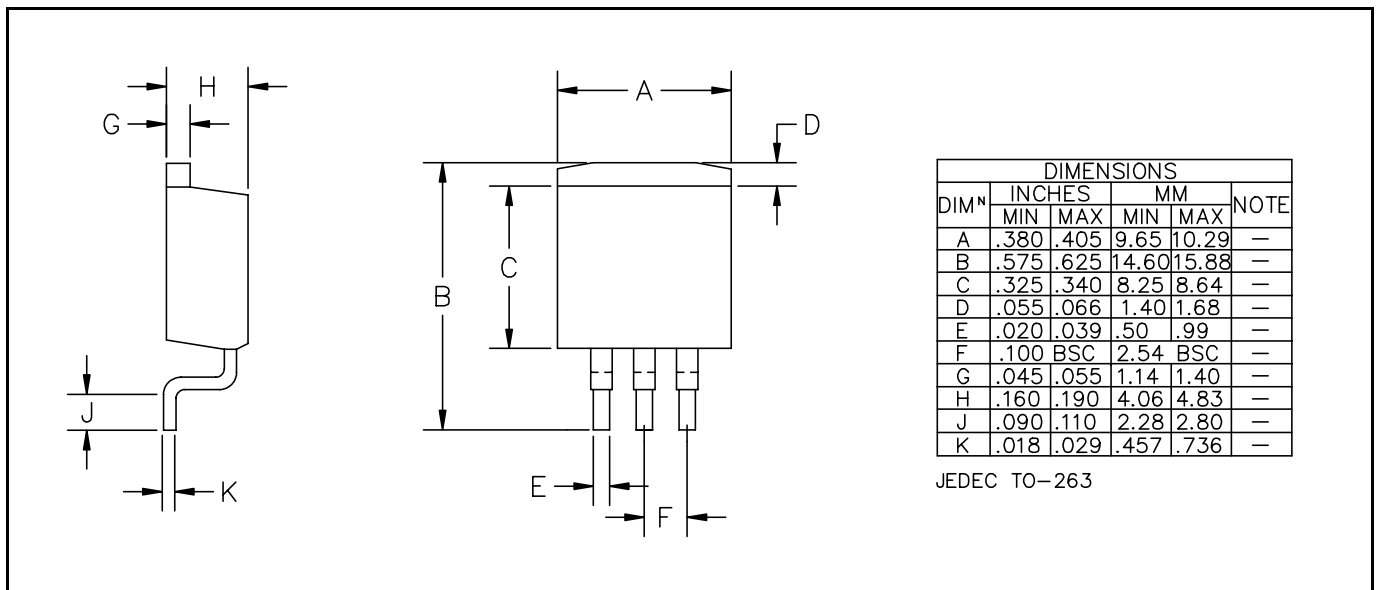
- (1) Low duty cycle pulse testing with Kelvin connections required.
- (2)  $\Delta V_{OUT}, \Delta V_{REF} = 1\%$
- (3) Bandwidth of 10 Hz to 10 kHz.
- (4) 120 Hz input ripple ( $C_{ADJ}$  for ADJ =  $25\mu F$ ).
- (5) Over Temp. (O.T.) = over specified operating junction temperature range.

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**BLOCK DIAGRAM**

**PIN CONFIGURATIONS**

**PIN DESCRIPTIONS**

Pin	Pin Name	Pin Function
1	ADJUST /	This pin is the negative side of the reference voltage for adjustable devices. Transient response can be improved by adding a small bypass capacitor from the adjust pin to ground.
	GROUND	This pin is the bottom end of the internal resistor feedback chain for fixed output voltage parts, and should be connected to ground.
2	OUTPUT	This is the power output of the device, and is electrically connected to the TAB.
3	INPUT	This is the input supply pin for both the control circuitry and the pass device.

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**DEVICE OUTLINE - TO-220**

**DEVICE OUTLINE - TO-263**


ECN00-1352